

CLAIMS

We claim:

1. In a vehicular mirror assembly comprising

a mirror base adapted to be mounted to a vehicle;

a mirror shell mounted to the base and comprising a rearwardly-facing opening;

5 a reflective element mounted within the mirror shell in register with the rearwardly-facing opening;

a tilt actuator mounted to at least one of the mirror shell and the base, and to the reflective element for tiltably actuating the reflective element;

the improvement comprising:

10 at least one of the mountings between a first component and a second component, the first and second component mountings being between at least one of (1) the base and the mirror shell; and (2) the tilt actuator and the at least one of the mirror shell and the base, comprises a snap-fit connection which securely retains the first component to the second component.
2. The vehicular mirror assembly of claim 1 wherein the mounting further comprises an aperture on the first component and a stud on the second component, wherein the stud is adapted to be snap-fit within the aperture to securely mount the stud within the aperture.
3. The vehicular mirror assembly of claim 2 wherein the stud comprises a first portion having a first diameter and a second portion having a second diameter smaller than the first diameter, the second portion adapted for snap fit communication with the aperture.

4. The vehicular mirror assembly of claim 3 wherein the stud is integrally formed with the to the second component.

5. The vehicular mirror assembly of claim 4 wherein the second portion of the mounting stud comprises a neck portion and a bulb end, the neck portion having a diameter smaller than the diameter of the bulb end.

6. The vehicular mirror assembly of claim 5 wherein the bulb end comprises an annular face having an approximately 45° bevel.

7. The vehicular mirror assembly of claim 6 wherein the neck portion comprises a truncated cone inclined approximately 10°.

8. The vehicular mirror assembly of claim 7 wherein the aperture comprises an aperture wall inclined approximately 10°.

9. The vehicular mirror assembly of claim 8 wherein the stud comprises a bore extending coaxially therethrough.

10. The vehicular mirror assembly of claim 1 wherein at least one of the first and second components is made from a material selected from the group consisting of: glass-filled nylon, acetal, polyester, an ABS plastic.

11. A snap-fit assembly for interconnecting selected components of a vehicular mirror assembly, the components comprising a mirror housing, a mounting frame having at least one of a first mounting aperture, and a tilt actuator assembly having at least one of a second mounting aperture, the snap-fit assembly comprising:

5 at least one of a first mounting stud comprising a first portion having a first diameter and a second portion having a second diameter smaller than the first diameter, the second portion adapted for snap fit communication with the at least one of the first mounting aperture and the first portion adapted for supporting communication with the mounting frame; and

10 at least one of a second mounting stud comprising a first portion having a first diameter and a second portion having a second diameter smaller than the first diameter, the second portion adapted for snap fit communication with the at least one of the second mounting aperture and the first portion adapted for supporting communication with the tilt actuator assembly.

12. The vehicular mirror assembly of claim 11 wherein the at least one of a first mounting stud is integrally attached to the mirror housing.

13. The vehicular mirror assembly of claim 11 wherein the at least one of a second mounting stud is integrally attached to the mounting frame.

14. The vehicular mirror assembly of claim 11 wherein the first portion of the at least one of a first mounting stud is rigidly attached to the mirror housing.

15. The vehicular mirror assembly of claim 11 wherein the first portion of the at least one of a second mounting stud is rigidly attached to the mounting frame.

16. The vehicular mirror assembly of claim 11 wherein the second portion of the at least one of a first mounting stud comprises a neck portion and a bulb end, the neck portion having a diameter smaller than the diameter of the bulb end.

17. The vehicular mirror assembly of claim 16 wherein the bulb end comprises an annular face having an approximately 45° bevel.

18. The vehicular mirror assembly of claim 16 wherein the neck portion comprises a truncated cone inclined approximately 10°.

19. The vehicular mirror assembly of claim 11 wherein one of the at least one of a first mounting aperture and the at least one of a second mounting aperture comprises an aperture wall inclined 10°.

20. The vehicular mirror assembly of claim 11 wherein one of the at least one of a first mounting stud and the at least one of a second mounting stud comprises a

bore extending coaxially through the one of the at least one of a first mounting stud and the at least one of a second mounting stud.

21. The vehicular mirror assembly of claim 11 wherein the mounting bracket comprises a glass-filled nylon and the mirror housing comprises acetal.

22. The vehicular mirror assembly of claim 11 wherein the mounting bracket comprises a polyester and the mirror housing comprises an ABS plastic.

23. The vehicular mirror assembly of claim 11 wherein at least one of the mirror housing and the mounting bracket are injection molded.

24. A vehicular mirror assembly comprising:

a mirror housing adapted to enclose a mounting frame and a tilt actuator assembly; and having at least one of a first mounting stud;

a mounting frame enclosed within the mirror housing having at least one of a first mounting aperture and at least one of a second mounting stud;

5 a tilt actuator assembly having at least one of a second mounting aperture; and

wherein the at least one of a first mounting stud comprising a first portion having a first diameter and a second portion having a second diameter smaller than the first diameter, the second portion adapted for snap fit communication with the at least one of the first mounting aperture and the first portion adapted for supporting
10 communication with the mounting frame; and

wherein the at least one of a second mounting stud comprising a first portion having a first diameter and a second portion having a second diameter smaller than the first diameter, the second portion adapted for snap fit communication with the at least one of the second mounting aperture and the first portion adapted for supporting
15 communication with the tilt actuator assembly.

25. The vehicular mirror assembly of claim 24 wherein the at least one of a first mounting stud is integrally attached to the mirror housing.

26. The vehicular mirror assembly of claim 24 wherein the at least one of a second mounting stud is integrally attached to the mounting frame.

27. The vehicular mirror assembly of claim 24 wherein the first portion of the at least one of a first mounting stud is rigidly attached to the mirror housing.

28. The vehicular mirror assembly of claim 24 wherein the first portion of the at least one of a second mounting stud is rigidly attached to the mounting frame.

29. The vehicular mirror assembly of claim 24 wherein the second portion of the at least one of a first mounting stud comprises a neck portion and a bulb end, the neck portion having a diameter smaller than the diameter of the bulb end.

30. The vehicular mirror assembly of claim 29 wherein the bulb end comprises an annular face having an approximately 45° bevel.

31. The vehicular mirror assembly of claim 30 wherein the neck portion comprises a truncated cone inclined approximately 10°.

32. The vehicular mirror assembly of claim 24 wherein one of the at least one of a first mounting aperture and the at least one of a second mounting aperture comprises an aperture wall inclined approximately 10°.

33. The vehicular mirror assembly of claim 24 wherein one of the at least one of a first mounting stud and the at least one of a second mounting stud comprises a bore extending coaxially through the one of the at least one of a first mounting stud and the at least one of a second mounting stud.

34. The vehicular mirror assembly of claim 24 wherein the mounting bracket comprises a glass-filled nylon and the mirror housing comprises acetal.

35. The vehicular mirror assembly of claim 24 wherein the mounting bracket comprises a polyester and the mirror housing comprises an ABS plastic.

36. The vehicular mirror assembly of claim 24 wherein at least one of the mirror housing and the mounting bracket are injection molded.